

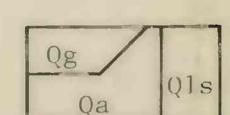
NILES QUADRANGLE
CALIFORNIA-ALAMEDA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

SW 1/4 LIVERMORE 15' QUADRANGLE

R 1 W 55' E

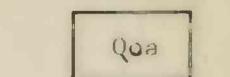
121° 52' 30" 37° 37' 30"

1:250,000 SCALE 3,000,000 FEET

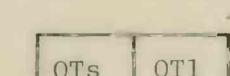


Surficial deposits
Qg; stream channel gravel and sand
Qa; alluvium
Ols; landslide debris*

UNCONFORMITY



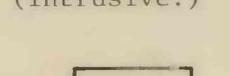
Older alluvium
UNCONFORMITY



Valley sediments
QTs; Santa Clara Formation, greenish-gray clay, minor sands, gravel
QTl; Livermore Gravel, reddish-gray gravel, minor sand and clay
UNCONFORMITY



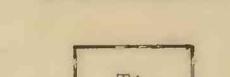
Rhoyite
Tan rhyolitic to dacitic felsite (intrusive)



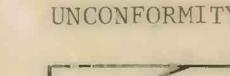
Tps
Nonmarine sedimentary rocks
Gray to reddish-gray pebble conglomerate; interbedded sandstone and shale
UNCONFORMITY?



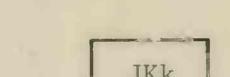
Tmss
Tmsl
Tmsh
Tmsc
Marine sedimentary rocks
Tmss; light gray, locally pebbly, arkosic sandstone
Tmsl; gray, argillaceous to sandy, massive to poorly bedded siltstone
Tmsh; light gray, thin-bedded semi-siliceous shale
Tmsc; tan to white brittle, laminated siliceous shale
UNCONFORMITY



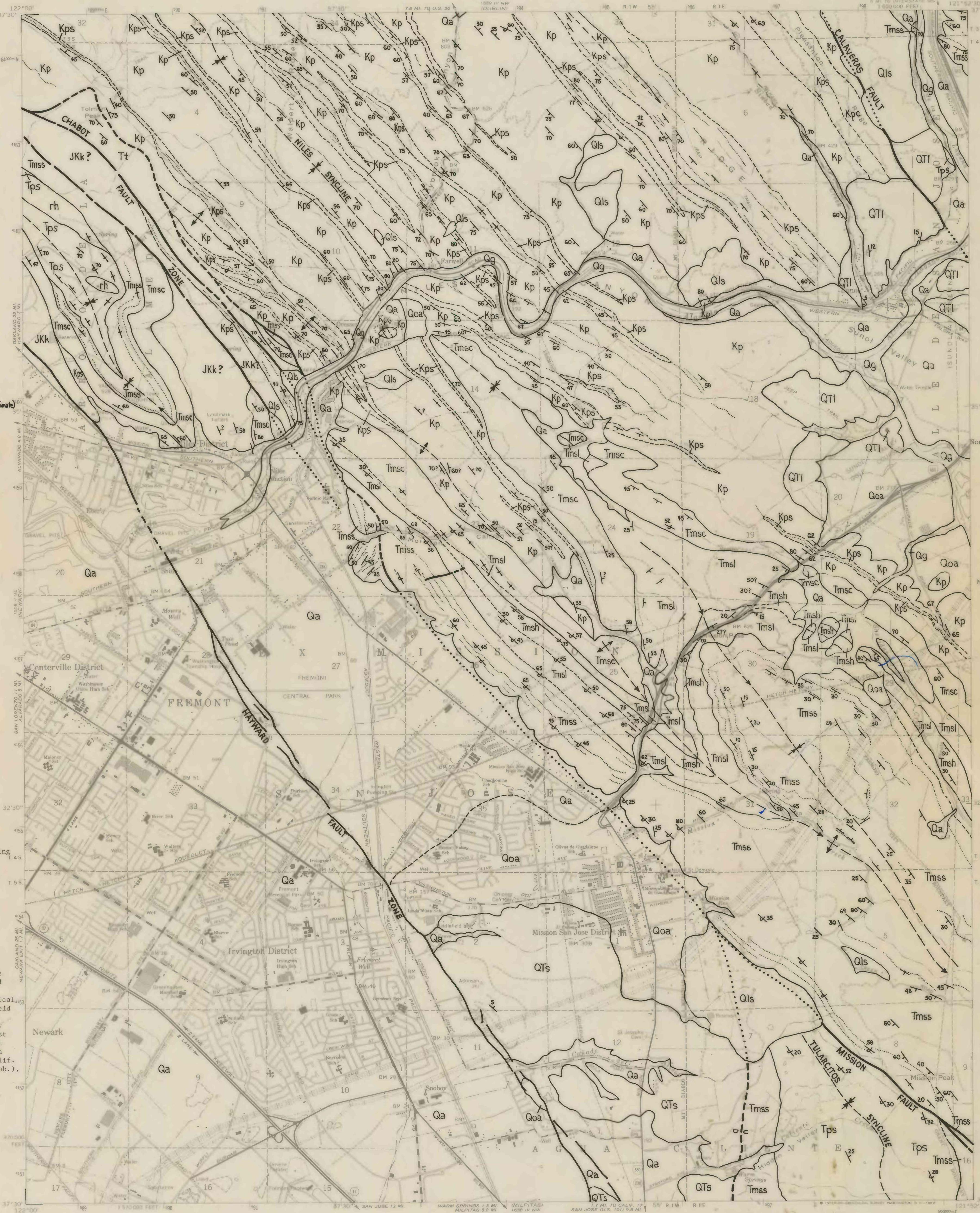
Tt
Telman Formation of Hall, (1958)
Marine sandstone and siltstone
UNCONFORMITY



Kps
Kp
Kpc
Panoche Formation
Kp; micaceous shale, minor sandstone
Kps; tan, arkosic sandstone, minor interbedded shale
Kpc, conglomerate, composed of cobbles of granitic and dioritic rocks, porphyritic rocks, quartzite, and black chert
T.4.5.



Jkk
Knoxville Formation
Dark gray micaceous shale



PRELIMINARY GEOLOGIC MAP OF THE NILES QUADRANGLE, ALAMEDA COUNTY, CALIFORNIA

by

Thomas W. Dibblee, Jr.

1980

U. S. Geological Survey
OPEN-FILE REPORT

This report is preliminary and has not been edited or reviewed for conformity with Geological Survey Standards and nomenclature

Geology mapped and field checked by T.W. Dibblee, Jr., 1977, modified from C.A. Hall, Jr., 1958, and M.E. Perkins, 1974. (Cretaceous sequence).

Hayward fault lines from D. Herd, 1977

* Only a few landslides are mapped.
See Nilsen, 1973 for a more complete map of landslide deposits.

Purple tint indicates extension of urban areas

NILES, CALIF.
SW 1/4 LIVERMORE 15' QUADRANGLE
N3730-W12152.5-7.5